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10/712,902	11/12/2003	John Warren Maly	200207608-1	9445

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EXAMINER

MERANT, GUERRIER

ART UNIT	PAPER NUMBER
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2117

NOTIFICATION DATE	DELIVERY MODE
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12/02/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/712,902	Applicant(s) MALY ET AL.	
	Examiner Guerrier Merant	Art Unit 2117	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4 and 6-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 6-28 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1, 4, and 22 have been amended.
2. Claims 2-3 and 5 are canceled.
3. Claims 1, 4, and 6-28 are presented for examination and are pending.

Response to Arguments

4. Applicants' arguments with respect to the rejections of claim 7 under 35 U.S.C. 112, second paragraph rejections are not persuasive. In page 12, Applicants provide two distinct definitions of the term "snoop response" and Applicants asserts that "The following Internet searches are not intended to provide an official definition of the term "snoop response". Therefore, it is not clear to the Examiner of what the Applicants refer to by "snoop response".

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Applicants' amendments have overcome the 35 U.S.C. 101 rejections with respect to claim 4.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 2117

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

As per claims 1 and 4: Applicants' amendments have overcome the 35 U.S.C. 112, second paragraph rejections.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 22 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claim 22: The structure or material that performs the means is directed to software per se (see page 5, lines 27-31).

Claims 23-28 inherit the 35 U.S.C. 112, second paragraph issues of the independent claim 22 by virtue of their dependency.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2117

As per claim 7: The term "snoop response" is a relative term which renders the claim indefinite. The term "snoop response" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 1, 4, 6-11, and 13-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hyduke (US 5,051,938)** and further in view of **Kunda et al (US 5,570,376)**.

As per claim 1: **Hyduke** teaches a computer implemented method of verifying events generated by an agent, said method comprising:

creating a transaction record or table (e.g. *col. 3, lines 54-68*);

Art Unit: 2117

generating an expected output signal, corresponding to said transaction record, (e.g. *netlists contain all information about system behavior that is needed for simulation-col. 3, lines 50-53; col. 5, lines 22-60*); signaling an error when said agent does not generate said expected output signal corresponding to said transaction record (e.g. col. 8, lines 43-48).

But Hyduke fails to teach detecting an input signal at an input of said agent and creating a transaction record corresponding to said input signal, wherein each of said transaction record including storage for expectation records associated with that transaction.

However, Kunda et al teaches a computer implemented method of verifying events generated by an agent comprising detecting an input signal at an input of said agent (e.g. col. 6, lines 35-50) and creating a transaction record corresponding to said input signal, wherein each of said transaction record including storage for expectation records associated with that transaction (e.g. col. 7, lines 56-65).

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement the teaching of Hyduke with the one taught by Kunda et al in order to identify physical locations of candidate faulty gate within an integrated circuit based on faulty gate candidates developed during a test (e.g. col. 3, lines 16-21- Kunda et al).

Art Unit: 2117

As per claims 4 and 22: Hyduke teaches an apparatus for producing expectations to verify events or signals generated by an agent or device comprising: at least one computer readable medium and computer readable program code stored on said at least one computer readable medium, said computer readable program code comprising:

program code for creating a transaction record (e.g. table 1A, col. 4 & fig. 6) (e.g. col. 3, lines 54-68);

program code for generating an expectation of an event or output, corresponding to said transaction record, (*e.g. netlists contain all information about system behavior that is needed for simulation- col. 3, lines 50-53*);

program code for signaling an error when said agent does not generate said expected output signal corresponding to said transaction record (e.g. col. 8, lines 43-48).

But Hyduke fails to teach detecting an input signal at an input of said agent and creating a transaction record corresponding to said input signal, wherein each of said transaction record including storage for expectation records associated with that transaction.

However, Kunda et al teaches a computer implemented method of verifying events generated by an agent comprising detecting an input signal at an input of said agent (e.g. col. 6, lines 35-50) and creating a transaction record corresponding to said

Art Unit: 2117

input signal, wherein each of said transaction record including storage for expectation records associated with that transaction (e.g. col. 7, lines 56-65).

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement the teaching of Hyduke with the one taught by Kunda et al in order to identify physical locations of candidate faulty gate within an integrated circuit based on faulty gate candidates developed during a test (e.g. col. 3, lines 16-21- Kunda et al).

Claim 6: Hyduke and Kunda et al teach the apparatus of claim 4, further comprising program

code for signaling an error if said event is detected at said at least one output for which no expectation has been produced (e.g. col. 8, lines 43-48; Hyduke).

Claim 7: Hyduke and Kunda et al teach an apparatus as in claim 4 above, wherein said program code for monitoring said at least one input of said agent for said stimulus comprises program code for monitoring at least one input of a memory agent for said stimulus (e.g. col. 3, lines 46-53; Hyduke); said stimulus being selected from a group consisting of an initial request to perform a memory operation, a snoop response, and a read response (e.g. col. 6, lines 38-49; Hyduke).

Art Unit: 2117

Claim 8: **Hyduke** and **Kunda et al** the apparatus of claim 4, wherein said program code for monitoring said at least one input of said agent for said stimulus comprises program code for identifying said stimulus using correlative information in said stimulus (e.g. col. 6, lines 32-68- figs. 6-7; Hyduke).

Claims 9-10: **Hyduke** and **Kunda et al** an apparatus as in claim 8 above, wherein said correlative information comprises transaction identification (e.g. col. 6, lines 32-68- figs. 6-7; Hyduke).

Claim 11: **Hyduke** and **Kunda et al** the apparatus of claim 4, wherein said program code for monitoring said at least one input of said agent for said stimulus comprises program code for gathering said stimulus from a plurality of separately transmitted portions (e.g. col. 3, lines 54-68; Hyduke).

Claims 13-14: **Hyduke** and **Kunda et al** an apparatus as in claim 4 above, wherein said program code creating a transaction record comprises program code for creating a transaction record to contain information relating to a memory transaction involving said agent (e.g. col. 6, lines 32-68- figs. 6-7; Hyduke).

Claim 15: **Hyduke** and **Kunda et al** an apparatus as in claim 4 above, wherein said program code for producing said expectation of said event comprises program

Art Unit: 2117

code for storing expected data associated with said expectation (e.g. col. 18, lines 1-13), said expected data being received in a plurality of separate incoming transmissions in said stimulus, said expected data being expected to be transmitted by said agent in a plurality of separate outgoing transmissions in said event (e.g. col. 7, lines 10-35; Hyduke).

Claim 16: Hyduke and Kunda et al an apparatus as in claim 15 above, further comprising: program code for comparing said expected data with actual data in said event program code for signaling an error if said expected data does not match said actual data and program code for signaling an error if said actual data is not expected (e.g. col. 8, lines 43-48; Hyduke).

Claim 17: Hyduke and Kunda et al an apparatus as in claim 15 above, further comprising program code for signaling an error if any of said plurality of separate outgoing transmissions is detected before all of said plurality of separate incoming transmissions have been received (e.g. col. 8, lines 43-48; Hyduke).

Claims 18-21: Hyduke and Kunda et al an apparatus as in claim 15 above, wherein said program code for monitoring said at least one output of said agent for said event begins monitoring said at least one output for said plurality of separate outgoing transmissions as soon as a first of said plurality of separate incoming transmissions has been received (e.g. col. 6, lines 32-68- figs. 6-7; Hyduke).

Claim 23: Hyduke and Kunda et al the method of claim 1, where the step of signaling an error further comprises signaling an error when said expected output does not occur (e.g. col. 8, lines 43-48; Hyduke).

Claim 24: Hyduke and Kunda et al the method of claim 1, where the step of signaling an error further comprises signaling an error when said expected output does not occur within a predetermined time (e.g. col. 3, lines 30-34; Hyduke).

Claims 25-28: Hyduke and Kunda et al the method of claim 1, where the step of signaling an error further comprises signaling an error when no transaction record can be identified for an output (e.g. col. 8, lines 43-48; Hyduke).

Allowable Subject Matter

13. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Art Unit: 2117

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Exr. Merant Guerrier whose telephone number is (571) 270-1066. The examiner can normally be reached Monday through Friday from 8: 30 a.m. to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ellis Kevin L, can be reached on (571) 272-4205. Draft or Informal faxes, which will not be entered in the application, may be submitted directly to the examiner at (571) 270-2066.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Guerrier Merant
11/24/09

/Kevin L Ellis/
Supervisory Patent Examiner, Art Unit 2117